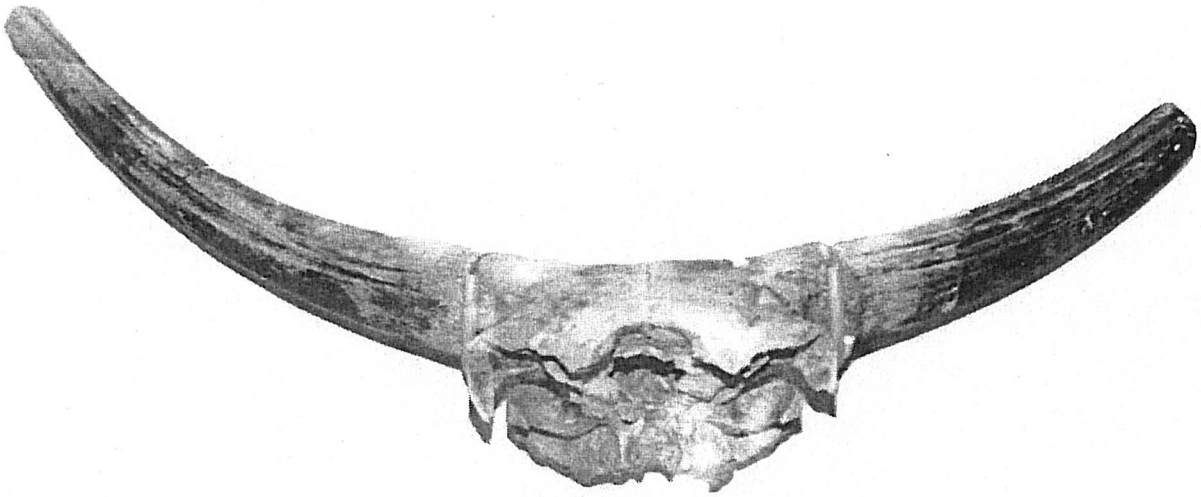
National Park Service
U.S. Department of the Interior

Southern Plains Network

Paleontological Resource Inventory and Monitoring
Southern Plains Network



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On the Cover:
A partial skull of a Pleistocene Bison with both horn cores nearly complete to the tips from a locality in Lake Meredith National Recreation Area. The skull is identified as a female distinguished by relatively slender horn cores that curve almost imperceptively upward. This rare specimen is on display at the Panhandle Plains Museum near Amarillo, Texas, and perhaps represents the largest female *Bison latifrons* remains known. For more information on the fossils of Lake Meredith National Recreation Area see pages 16-18.

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INTRODUCTION

Paleontological resources are the remains of past life preserved in a geologic context. These fossils are non-renewable resources that possess scientific and educational values.

Establishment of baseline paleontological resource data is essential for the appropriate management of fossils found within National Park Service areas. Although over 160 National Park Service areas have been identified with paleontological resources, only a small percentage of these parks have adequate baseline paleontological resource data.

In conjunction with the National Park Service Geologic Resources Division and Inventory and Monitoring Networks, comprehensive paleontological resource inventories have been initiated in dozens of parks servicewide. This report represents paleontological resource inventory and monitoring data compiled for the parks within the Southern Plains Network.

The Southern Plains Network is comprised of 11 National Park Service areas: Alibates Flint Quarries National Monument, Bent's Old Fort National Historic Site, Capulin Volcano National Monument, Chickasaw National Recreation Area, Fort Larned National Historic Site, Fort Union National Monument, Lake Meredith National Recreation Area, Lyndon B. Johnson National Historical Park, Pecos National Historical Park, Sand Creek Massacre National Historic Site, and Washita Battlefield National Historic Site. These parks are located in southeastern Colorado, Kansas, New Mexico, Oklahoma, and Texas. The Southern Plains Network preserves temperate, subtropical steppe, and prairie ecoregions. These significant environments are embedded in agricultural landscapes.

Fossiliferous geologic units range from the Cambrian (around 515 million years ago) to the Quaternary. Significant fossils of invertebrates, vertebrates, plants, and traces have been found in some of the parks, and the potential to discover new localities is great. The confirmed paleontological resources found within park boundaries include petrified wood, plant material, mollusks, mammoth, bison, and fossil burrows.

Resources particularly worth noting include a partial skull of a Pleistocene *Bison* with both horn cores nearly complete to the tips was collected from a locality in Lake Meredith National Recreation Area. The skull is identified as a female distinguished by relatively slender horn cores that curve almost imperceptively upward. This rare specimen is on display at the Panhandle Plains Museum near Amarillo, Texas, and perhaps represents the largest female *Bison latifrons* remains known. Additionally, the abundance and variety of the fossil assemblages at Chickasaw National Recreation Area are extraordinary.

The Southern Plains Network is also unique for the first Oil and Gas Environmental Impact Statement (EIS) that considered paleontological resources (Santucci, 2000). The Oil and Gas EIS for Alibates Flint Quarries National Monument and Lake Meredith National Recreation Area contained a section that discussed paleontological resources as well as developed standard operating procedures for fossil resources.

The variety, abundance, and great potential for fossils in the Southern Plains Network dictates that these areas be included in the many paleontological resource gems within the National Park Service.

ALISON L. KOCH
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SAND CREEK MASSACRE NATIONAL HISTORIC SITE

Sand Creek Massacre National Historic Site (SAND) was authorized in 2000, though it is not currently established. This park will preserve the site of the U.S. Army's massacre of 150 Cheyenne and Arapaho people in southeastern Colorado. These actions were later condemned, following three federal investigations. The National Park Service is in the process of acquiring enough land to sufficiently preserve, commemorate, and interpret the massacre.

BASELINE PALEONTOLOGICAL RESOURCE INVENTORIES:

There have been no documented fossil discoveries at SAND. The geology along the southeasterly- trending valley at the site is primarily composed of unconsolidated, Quaternary, wind- derived sand deposits (National Park Service, 2000). These sands overlay Pleistocene sands, silts, and gravels (Sharps, 1976). Quaternary dune sand and valley silt and sand deposits are found in the other areas of the park. A member of the fossiliferous Niobrara Formation lies 50 to 70 feet below these Quaternary deposits, but no hard strata is exposed within the park (Sharps, 1976). Although no fossils are known from this area, there is still the possibility of new discoveries within the Quaternary deposits. Additionally, paleontological resources may be found in association with archeological resources. This association may represent instances where fossils were found in the area or brought from other regions and left at the site.

REFERENCES CITED:

National Park Service, 2000. Sand Creek Massacre Project, Volume 2: Special Resource Study (SRS) and Environmental Assessment (EA): National Park Service, Intermountain Region, Denver: 171.

Sharps, J. A., 1976. U. S. Geologic Map of the Lamar Quadrangle, Colorado and Kansas: U. S. Geological Survey, Map I- 944, scale 1:250,000.

DATA SETS:

DS- SAND-XXX	Sand Creek Massacre National Historic Site Paleontological Archives. 11/2000 – present. (hard copy data; reports; electronic data; photographs; maps; publications). Originated by Santucci, Vincent; status: Active.
DS- SAND-XXX	Sand Creek Massacre National Historic Site Files, Archive, Museum Records. 11/2000 – present. (hard copy data; reports; electronic data; photographs; maps; publications). Originated by Sand Creek Massacre National Historic Site; status: Active.